IN THE CLAIMS

1-63. (canceled)

64. (currently amended) A method to screen compounds to identify candidate therapeutic agents comprising the steps of:

contacting a test compound with a serine racemase comprising the amino acid sequence shown in SEQ ID NO:10 or SEQ ID NO:8;

assaying activity of the serine racemase; and

identifying a test compound as a candidate therapeutic agent if it modulates the activity of the serine racemase.

65. (previously presented) The method of claim 64 wherein the candidate therapeutic agent inhibits the activity of the serine racemase.

66. (previously presented) The method of claim 64 wherein the candidate therapeutic agent increases the activity of the serine racemase.

67-82. (canceled)

83. (currently amended) A method to screen compounds to identify candidate therapeutic agents comprising the steps of:

contacting a test compound with a preparation of isolated serine racemase which~~, wherein the serine racemase (1) has a specific activity of at least 0.075 μmole L-serine/mg/hour,~~ ~~(2)~~ comprises an amino acid sequence which is at least ~~85%~~ 95% identical to SEQ ID NO:8 or SEQ ID NO:10 ~~as determined according to the Smith-Waterman homology search algorithm, using an affine gap search with gap open penalty of 12 and a gap extension penalty of 1,~~ and ~~(3)~~ comprises a pyridoxal 5′ phosphate binding region consisting of amino acids 47-60 of SEQ ID

NO:8 or SEQ ID NO:10, ~~wherein differences between the amino acid sequence of the serine racemase and SEQ ID NO:8 or SEQ ID NO:10 lie in conservative amino acid substitutions which do not abolish serine racemase activity~~;

assaying activity of the serine racemase; and

identifying a test compound as a candidate therapeutic agent if it modulates the activity of the serine racemase.

84. (previously presented) The method of claim 83 wherein the candidate therapeutic agent inhibits the activity of the serine racemase.

85. (previously presented) The method of claim 83 wherein the candidate therapeutic agent increases the activity of the serine racemase.

86-97. (canceled)

98. (new) The method of claim 64 wherein the serine racemase comprises the amino acid sequence shown in SEQ ID NO:8.

99. (new) The method of claim 64 wherein the serine racemase comprises the amino acid sequence shown in SEQ ID NO:10.

100. (new) The method of claim 83 wherein the amino acid sequence is at least 95% identical to SEQ ID NO:8.

101. (new) The method of claim 83 wherein the amino acid sequence is at least 95% identical to SEQ ID NO:10.

102. (new) The method of claim 83 wherein the amino acid sequence is at least 96% identical to SEQ ID NO:8.

103. (new) The method of claim 83 wherein the amino acid sequence is at least 96% identical to SEQ ID NO:10.

104. (new) The method of claim 83 wherein the amino acid sequence is at least 97% identical to SEQ ID NO:8.

105. (new) The method of claim 83 wherein the amino acid sequence is at least 97% identical to SEQ ID NO:10.

106. (new) The method of claim 83 wherein the amino acid sequence is at least 98% identical to SEQ ID NO:8.

107. (new) The method of claim 83 wherein the amino acid sequence is at least 98% identical to SEQ ID NO:10.

108. (new) The method of claim 83 wherein the amino acid sequence is at least 99% identical to SEQ ID NO:8.

109. (new) The method of claim 83 wherein the amino acid sequence is at least 99% identical to SEQ ID NO:10.